

1887 **AERIALS (Radio Wave Propagation)****H R Hertz (Germany)**

It remained for Heinrich Hertz to prove the existence of electric waves in space as predicted by Maxwell. The first true antenna appears to have been used by Hertz in his classical experiments at Karlsruhe in 1887. His antenna consisted of two flat metallic plates, 40 cm square, each attached to a rod 30 cm long. The two rods were placed in the same straight line, and were provided at their nearer ends with balls separated by a spark gap about 7-mm long. The spark gap was energised by a Ruhmkorff coil. In order to detect the radiated waves, Hertz employed a receiving circuit consisting of a circular loop of wire broken by a microscopic gap. The radius of the loop was 35 cm which was found by experiment to be the proper size to be in resonance with the oscillator.

SOURCE: 'Early history of the antennas and propagation field until the end of World War I, part I—antennas' by P S Carter and H H Beverage *Proc. IRE* p 680 (May 1962)

SEE ALSO: 'Ueber sehr schnelle elektrische Schwingungen' by H Hertz *Ann. Physik und Chemie* (Wiedeman) NF vol 31, pp 421–448 (15 May 1887)